

hopeless cases we can offer either an arrest of the disease, or a chance of returning to good health. The procedure is attended with slight dangers, but these are insignificant as contrasted with the fatal outcome if the disease is allowed to go on unchecked. The duration of treatment is a question offering the greatest problem. It is impossible to determine whether the tuberculous foci in the collapsed lung have become entirely cicatrized, even though the patient is clinically well. It is far better to continue the treatment for an indefinite period, extending over years, than to discontinue the compression and discover after a few months that the disease is becoming active again, and when an attempt is made to readminister gas, that the layers of the pleura are densely adherent.

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**The Treatment of Leukemia.**—Hahn (*Therap. Monatsh.*, 1914, xxviii, 555) says that during the past few years there has been a greatly increased literature dealing with the treatment of leukemia and that considerable discrepancy of opinion exists among different observers. From a study of the literature and his own observations the author gives his views regarding the present status of the treatment of leukemia. He believes that leukemia should be vigorously treated only where there is a severe and progressing anemia, the presence of large leukemia tumors or a great increase of the white cells. It is now recognized that many cases of leukemia suddenly show a marked aggravation of the disease even when apparently doing very well under some form of treatment. The relapse in such a case may prove far worse than the disease originally was when treatment was begun. With regard to the different methods of treatment, the author states that the Roentgen-rays seem to check the activity of the tissues producing white blood cells, but overdosage may prove fatal, and too small doses may actually stimulate the production of white cells. The stimulating effects of Roentgen-rays on the production of white cells have been observed in professional roentgenologists; Kimecke has recently reported six cases of leukemia developing in Roentgen-ray workers as a result of long-continued exposure to the rays. Hahn advises systematic exposure of every accessible gland in lymphatic leukemia, but in myeloid leukemia exposure of the enlarged spleen alone is effectual. In cases resistant to the treatment, benefit may be obtained by exposing the long bones of the legs between series of other exposures. He notes a marked improvement in 75 per cent. of his cases, while the others were not influenced. Bécélère has reported no failures in 12 lymphatic and 93 myeloid cases and still others report very favorable results. Lymphatic leukemia seems less influenced by roentgenotherapy than myeloid leukemia, and almost invariably relapses. The effect of radio-active substances seems to be very similar to that derived from the Roentgen-rays. Radio-active substances fail in about 20 per cent. of the cases, according to the cases reported in the literature. Hahn found a great difference of opinion regarding beneficial effects of benzol therapy. He says it should not be given with coexistent disease of the liver or kidneys or when catarrhal intestinal inflammation exists. The consensus of opinion is that its use should not be continued till the leukocytes fall to normal numbers but that it should be discontinued when the leukocytes have dropped to 20,000 or 25,000. Hahn says

that combined treatment is often very effectual especially a combination of benzol and roentgenotherapy. When combined, both can be used with lesser dosage. His experience has been that better results are obtained when treatment is begun with the Roentgen-rays and continued with benzol, not giving more than one gram a day of the latter. If myeloblasts appear in large numbers under roentgen treatment he changes to thorium X and follows with vigorous treatment with arsenic. In case of flaring up of the leukemia while under roentgenotherapy arsenic should be given a trial. With acute leukemia all treatment seems to be hopeless, but as it is not always possible to differentiate the acute form Hahn advises the trial of thorium X combined with a vigorous course of arsenic.

**Experiences of the New York Board of Health in Typhoid Immunization.**—HARRIS and OGAN (*Jour. Amer. Med. Assn.*, 1915, lxiv, 3) say that accurate observations recorded in hundreds of thousands of cases leave no doubt as to the preventative powers of antityphoid vaccination in all but a relatively insignificant number. In those few cases subsequently affected, vaccination strikingly decreases the morbidity and the mortality. Severe reactions are rare, but in order to avoid such reactions it is necessary to carefully observe certain precautions. Antityphoid vaccine should never be administered to any but the healthy. In order to permit of slow absorption the puncture of a vein, or intramuscular injection must be avoided. Children especially should avoid exposure to the sun following the administration of the vaccine. Antityphoid vaccine should not be given during the menstrual period or during pregnancy. No hard work or indulgence in alcohol should be allowed after the injection. Care should be taken not to reinject the vaccine in indurated areas. The authors state that when the incubation period has begun, the time for antityphoid vaccination has passed. Long and continued exposure to overwhelming doses of typhoid bacilli (in those who are in close contact with cases and especially in epidemics) may nullify the immunizing process of antityphoid vaccine, and an attack may therefore follow one or more injections. In fact antityphoid inoculation seemed to hasten the onset in cases cited by the authors. Chronic illness such as tuberculosis as well as debility or fatigue from other causes predisposes to severe reactions. The disease may develop after a complete immunizing course of treatment, in exceptional instances in which debility and fatigue exhaust the defensive powers of the body, and when exposure to massive doses of typhoid bacilli exists.

**The Treatment of Typhoid Bacilli Carriers.**—GEROME and LENZ (*Berl. klin. Wchnschr.*, 1915, lii, 341) were able to render the stools free of typhoid bacilli in three men, who were apparently becoming chronic carriers, by giving thymol in combination with animal charcoal. Thymol was selected as an efficient disinfectant and the charcoal was combined with it on the theory that the charcoal would absorb the thymol and thus inhibit its absorption by the tissues and permit it to act as an intestinal antiseptic for a longer period of time and over a greater portion of the intestinal tract. This theory seemed to be confirmed by the urinary examinations which denoted much slower ab-